

# Supplier Aftermarket Manual for Packaging, Shipping Notification, Transportation, and Customs Compliance

In a continuing effort to standardize incoming aftermarket materials, please review the following Volvo Parts North America VPNA required packaging specifications:

Minimum requirements will be for all purchased material for Service Parts Operation. These will supersede and replace any previous specifications and become effective **November 1<sup>st</sup>, 2006**. This specification provides for general requirements of primary and secondary packaging and shipping to Mack Trucks, Inc. Parts and Service Operations and VPNA, with the goal of delivering quality parts to our dealers at the lowest possible total cost.

Effective **November 1st, 2006** supplier's compliance will be reviewed and documented. Debit memos will be issued suppliers who do not meet the following standards.

When in non-compliance, material may be rejected and returned to the supplier, or Mack Trucks, Inc. or VPNA, may debit the following charges to your account for rework of material:

- 1.) Administrative cost to process necessary documentation -
  - For each debit, \$30.00 minimum charge for Mack Truck, Inc.
  - For each debit, \$50.00 minimum charge for VPNA.
- 2.) Labor for any related repackaging charges –
  - \$30.00 per man-hour, plus package material cost for Mack Truck, Inc.
  - \$25.00 per man-hour, plus package material cost for VPNA.
- 3.) Labeling for part identification, one time lot charge of \$10.00, plus any labor charges for labeling.
- 4.) Pallets that are sub-standard and need to be replaced will carry a rate of \$10.00 per or current cost, plus all labor charges to have material re-palletized for Mack Truck, Inc.

The above charges are subject to change without notification. Any questions contact:

Jim Racosky  
Packaging Engineer  
2100 Mack Boulevard, P.O. Box M  
Allentown, PA 18105-5000  
610.709.2501  
[jim.racosky@volvo.com](mailto:jim.racosky@volvo.com)

Eric Fisher  
Packaging Engineer  
8355 Highfield Drive  
Lewis Center, OH 43035-9475  
740.549.6463  
[glen.fisher@volvo.com](mailto:glen.fisher@volvo.com)

Debra Knowles  
Senior Packaging Engineer  
8355 Highfield Drive  
Lewis Center, OH 43035-9475  
740.549.6410  
[debra.knowles@volvo.com](mailto:debra.knowles@volvo.com)

Gary L. Parker  
Director, Parts Supply Chain Management

<b>Table of Contents</b>	<b>Page</b>
1.0 Introduction.....	1
1.1 Purpose:.....	1
1.2 Scope:.....	1
1.3 Compliance:.....	1
1.4 Communication:.....	1
1.5 Specifications:.....	1
1.6 Revisions:.....	2
2.0 Packaging Requirements.....	2
2.1 General Requirements:.....	2
2.1.1 Brand Packaging:.....	2
2.2 Packaging Protection:.....	3
2.3 Part Cleanliness:.....	3
2.4 Part Protection:.....	3
2.5 Package Closure Requirements:.....	4
2.6 Package Identification:.....	4
2.7 Shelf Life:.....	4
2.8 Hazardous Communication:.....	4
2.8.1 Labeling of Hazardous Materials:.....	4
2.8.2 MSDS, Material Safety Data Sheet (MSDS):.....	4
2.8.3 Other Labeling Requirements:.....	5
2.9 Hazardous Material Shipments:.....	5
2.10 Rust Protection:.....	5
2.11 Country of Origin:.....	5
2.12 Miscellaneous Concerns:.....	5
3.0 Primary Packaging.....	6
3.1 Carton Weight Limitations.....	6
3.2 Package Identification.....	6
3.3 Styles and Strength of Packaging Materials.....	6
3.4 General Recommendations.....	7
4.0 Shipping Containers.....	7
4.1 General Requirements:.....	7
4.2 Container Size:.....	7
4.3 Container Construction and Material Requirements:.....	8
5.0 Palletization.....	8
5.1 General Requirements:.....	8
5.2 Strapping, Securing Load to Pallet:.....	8
5.3 Stretch Wrap, Securing Load to Pallet:.....	9
5.4 Load Requirements:.....	9
5.5 Mixed Loads:.....	9
5.6 Miscellaneous:.....	9
6.0 Pallets/Emballage.....	10
6.1 Volvo Returnable Packaging:.....	10
6.2 General Requirements:.....	11
6.3 Material Requirements:.....	11
6.4 Miscellaneous:.....	11
6.5 ISPM 15 Pallets:.....	12

<b>Table of Contents</b>	<b>Page</b>
7.0 Part Identification Labels.....	12
7.1 Parts Identification, Primary Packages Bar Code, RP801C:.....	12
7.2 Label Specifications:.....	13
7.3 Printer Specifications:.....	14
7.4 Miscellaneous:.....	14
8.0 Shipping Labels.....	14
8.1 Shipping Labels, Part Identification:.....	14
8.1A Secondary Packaging Mack, Inc.:.....	14
8.1B Secondary Packaging VPNA:.....	16
8.2 Sizes and Materials, Mack Inc:.....	22
8.2A Bar Code Symbology:.....	22
8.3 Size and Materials, VPNA:.....	22
9.0 Wooden Crating.....	23
9.1 General Requirements:.....	23
9.2 Fastening:.....	23
9.3 Interior Packaging:.....	24
9.4 Miscellaneous:.....	24
10.0 Packaging for Material Stored Outside.....	24
10.1 Container Design:.....	24
10.2 Identification:.....	24
10.3 Miscellaneous:.....	24
11.0 Packing List.....	24
11.1 General Requirements:.....	24
12.0 Procurement - Supplier Responsibilities.....	24
13.0 Transportation Routine, VPNA.....	25
13.1 Routing Letter:.....	25
13.2 LTL Shipments:.....	25
13.3 Expedite Requests:.....	26
13.4 Customer Clearance:.....	26
13.5 Packing List:.....	26
14.0 Conclusions.....	27
14.1 Suffixes:.....	27
14.2 Usages:.....	27
15.0References.....	28
Example A: Parts Operations Packaging Specifications Form.....	29
Example B: Supplier Packing Instructions.....	30
Example C: Pallet Specifications.....	31
Example D: Proforma Invoice (PMR).....	32
Example E: Emballage Order Form.....	33

## **General Specification**

### **1.0 Introduction**

#### **1.1 Purpose:**

To standardize incoming supplier packaging, identification of materials, and the methods in which they are packed and shipped, the following "general specification" will be followed by all suppliers to assure our dealers of quality parts at the lowest possible total cost. In the event special packaging requirements or deviations are needed, they are to be approved, prior to shipment, by the Packaging Engineer.

This manual will provide guidelines for the printing and placement of shipping and Part Identification Labels. These labels are designed to improve productivity by allowing effective and efficient capture of data for the warehouse input and output, cycle counting, shipper generation, freight transfer control, receiving and other inventory controls.

The goal is to have quality bar code labels, which correspond to the Advance Ship Notice (ASN) received with every shipment. Bar Code Labeling identifies the type, quantity and source of material within a shipping container and when scanned, ties the physical material with a logical ASN description of the shipment. Both the ASN and bar code label work together to speed up the process of receiving material. Bar code data that is consistent with ASN data allows Volvo Parts North America to make a key-less receipt and leads to more rapid payment process.

The information contained in this guide should provide instruction for packaging, labeling, shipping notification, transportation, and customs compliance. Also provided are contact numbers and agencies for guidance as well as reference materials.

#### **1.2 Scope:**

To provide a general specification for all suppliers to follow in packaging, identification of materials, and shipping of product to Mack Trucks and VPNA, Parts Operations, the general specification will apply to all items purchased and may be superseded by individual part specifications at the discretion of the Packaging Engineer.

#### **1.3 Compliance:**

Inbound shipments will be randomly inspected by the PDC Receiving Department's at, for packaging compliance. Non-compliance will result in either rejections/debits of reworked material or material returned to the supplier for compliance, as outlined. If compliance recommends following a specification other than one published by the PDC, it will be the responsibility of the supplier to obtain said specification and assure compliance.

#### **1.4 Communications:**

All supplier questions and communication on packaging or shipping specifications for Parts Operations are to be directed through the Packaging Engineer for Mack PDC's and Packaging Engineer for VPNA PDC's.

#### **1.5 Specifications:**

In the event packaging specifications have not been set up for an individual part, approval must be obtained prior to packaging. The accepted method for approval will be to submit a package specification form with Sections 1, 2, and 3 completely filled out, to the Packaging Engineer for Mack Trucks, Inc or Packaging Engineer for VPNA (**Page 29, Example A**) Upon review, the form will be returned with disposition. There will be no exception to this method unless other arrangements have been made with the Packaging Coordinator or Packaging Engineer.

## 1.6 Revisions:

All revisions will be maintained and approved by the Packaging Engineers for both the Mack PDC's and VPNA PDC's.

## 2.0 Packaging Requirements (Primary /Secondary)

### 2.1 General Requirements:

**PRIMARY PACKAGING:** Once a package configuration and package quantity has been established for a particular part/assembly, a supplier will continue using it until requested by PDC to modify it. This package quantity will be specified on the purchase order.

#### 2.1.1 Brand Packaging

Mack Trucks and VTNA Marketing has assigned specific Brand Distinction Requirements for aftermarket packaging. The brand assigned should be on the Purchase Requisition.

The brand distinctions will appear as "Mack," "Volvo," "common package," or "vendor package." If this information is not provided then you must contact the Packaging Engineer for Mack Trucks, Inc or the Packaging Engineer for VPNA.

Based on the Brand Distinction Requirements the following logos are specified. **(fig.1)** These are to be applied by corrugated printing, printed tape, or logo label.

FIG. 1 Brand Distinctions





Per Volvo Construction Equipment marketing requirements, supplier packaging must not have any company logo or markings on it's packaging.

**SECONDARY PACKAGING:** The quantity per container must remain constant for a given part whenever possible. If multiple containers are used on a particular shipment for the same part, the quantity of parts in each container must be the same, except for the last container, which must be the remaining quantity of the lot. (However if the quantity per container is known but not specified on the purchase order, you must advise the Procurement Coordinator for VPNA. **Page 36, Example B**)

**Note: Mixed load containers will be the exception to this requirement except that part number will segregate all items contained within the secondary packaging.**

## **2.2 Primary Packaging Protection:**

The packaging is expected to provide protection during shipment to any of the PDC's plus storage, handling, and reshipment to the dealer.

- A. Shipment and reshipment will be defined as the carrier environments used to process shipments.
- B. Storage of parts will be defined as a closed, covered location with the environment controls that are common in most warehousing/distribution facilities used for automotive/truck/heavy equipment aftermarket parts.
- C. Handling will be either by manual means or by the use of material handling equipment.

## **2.3 Part Cleanliness:**

All parts must be free of rust, dirt, and generally clean prior to packaging. Cleanliness of the part is not to be degraded by any of the packaging materials.

## **2.4 Part Protection:**

Part separation is required if part shifting or rubbing will cause scratches, defects, damage, and/or entanglement of part or package. Surface protection is to be provided to any part that requires it, (painted, chrome, etc.). All fragile parts should be cushioned properly for protection from shock and vibration. All items that are packaged and are of a fragile nature should be marked accordingly on the outside of both the primary and secondary containers.

## 2.5 Package Closure Requirements:

The package closure must maintain interior cleanliness and ensure that the contents remain intact during shipping and handling. Package closure and construction shall permit access to the contents for inspection without destroying the usefulness of the container, unless instructed otherwise by the Packaging Engineer. The exception to this will be when the package contains a service kit item of multiple pieces. Then the kit will be sealed in such a manner to detect tampering. All Mack Truck kits must have a "Tamper" label affixed over the opening. Mack, will supply this label at no cost, upon request. All cartons/containers must be secured with 3" non-asphalted reinforced tape, 3" pressure sensitive tape, or strapping. Metal strapping, 1/2" minimum, may be used for carton closure but 1/2" plastic strapping is preferred when applicable. Labels will not be used to maintain closure.

**Note: Crown staples will not be permitted unless approval is granted prior to shipment.**

## 2.6 Packaging Identification:

All packaging will be easily identified. Primary packaging identification is discussed, in detail, in Sections 3.2 and 7.1, and Secondary packaging identification in Section 8.1.

**Note: All individual parts received, whether packaging has been designated or not, must be identified with the Mack Truck or Volvo part number, as stated on the purchase order. The approved methods to identify these parts will be by tagging or labeling as specified in Section 7.1, Parts Identification, and Primary Packaging. When applying labels directly to the part being supplied, the identification markings shall not be located on a, as installed, visible surface of the component. Labels or tags will be applied in such a manner as to avoid bending of the label and distortion of the bar coded information.**

## 2.7 Shelf Life:

All material that has a predetermined shelf life shall be marked accordingly in a conspicuous place stating date of manufacture and life of product.

## 2.8 Hazardous Communication:

If the product manufacturer has determined that the product is hazardous or contains hazardous ingredients under 29 CFR 1910.1200(d) and the product is not exempt from the requirements of 1910.1200, then the supplier must ensure that the following packaging requirements are met:

### 2.8.1 Labeling for Hazardous Product:

All primary product packages must be labeled in accordance with the labeling requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200(f).

The supplier shall insure that all the information and warnings provided by the chemical manufacturer (if not the supplier) pursuant to the above regulation are included on the primary package. As a minimum, this information shall include:

- 1) Identity of the hazardous chemicals (as defined by OSHA) in the product.
- 2) Appropriate hazard warnings regarding the hazards of those chemicals.

### 2.8.2 Material Safety Data Sheet (MSDS):

The supplier will provide a Material Safety Data Sheet as required by the OSHA Hazard Communication Standard 29 CFR 1910.1200 (f), to each location to which the product is shipped with the initial shipment of each calendar year. This will include all products supplied to our customers on a ship direct basis. In addition, if MSDS change by the chemical manufacturer (or supplier) for any reason, the supplier will provide each location with an upgraded MSDS with the next shipment following such change.

The supplier, if not the manufacturer of the product, shall ensure that all information on the MSDS provided by the manufacturer is included on the MSDS provided to Mack and VPNA and their dealers.

The MSDS shall clearly identify the product name as shown on the label on the primary package and shall also include the Mack or Volvo part number.

In addition to the above, the supplier will provide a copy of the MSDS for all products for which one is required to the Health and Safety Department of VPNA and an additional copy to the Packaging Coordinator, for Mack and the Quality-Safety Manager for VPNA Lewis Center.

### **2.8.3 Other Labeling Requirements for Hazardous Products:**

In addition, the label of the primary package shall contain any additional information relating to chemical content, such as but not limited to VOC content that may be required by any other governmental agency such as the EPA or state agencies.

It is the responsibility of the manufacturer/supplier to ensure that all labels comply with the applicable governmental regulations and is changed expeditiously in response to changes in those regulations.

### **2.9 Hazardous Material Shipments:**

All shipments containing material that could be deemed hazardous shall be marked accordingly, in a conspicuous place, and shall state any warnings or precautions needed for handling. All hazardous material shipments shall comply with all applicable regulations and carrier requirements, including but not limited to Title 49 of the Code of Federal Regulations, International Air Transport Association Requirements, International Maritime Dangerous Goods Code, United Parcel Service Requirements, Federal Express Requirements and any United Nation POP requirements.

### **2.10 Rust Protection:**

All parts must be able to remain rust free for a minimum of 2 years. This protection is to be provided, either through the manufacturing processes and/or through the addition of rust preventatives, such as VCI (volatile corrosive inhibitors). Deviations to this may be requested and must be approved prior to shipment by the Packaging Coordinator or Packaging Engineer.

### **2.11 Country of Origin:**

All packaging containing material produced outside of the United States shall have a separate label indicating Country of origin per government regulations. Labels indicating this must be as prominent as the part identification label, and clearly state the country of origin. Inquiries on this subject should be made to Customs Coordinator, Purchasing, at Greensboro, NC.

### **2.12 Miscellaneous Concerns:**

Package design should allow for easy removal of contents in ergonomically friendly manner. Particular attention should be applied to electrical parts, where wiring is susceptible to snagging, and long parts, which may end up dragging as the part is pulled from the container. Construct packaging so that it does not fall away from part when the closure is opened.

Packaging must be free from handling hazards (protruding nails, loose banding, staples, etc.) Packaging specifications should allow for a minimum amount of movement for parts contained within. Chlorine-bleached paper is not to be used.

Packaging materials should be of a recycled nature whenever possible with the appropriate recognized recycled markings for the material being used. All packaging components will be of a non-toxic nature, no PVC or CFC's are to be used. All printing inks are water or vegetable oil based. Inks will not contain any heavy metal components such as cadmium, nickel, lead, chromium, mercury, arsenic, selenium, antimony, and barium.

### 3.0 Primary Packaging (Individual Parts)

#### 3.1 Carton Weight Limitations:

The gross weight of any one package shall not exceed weight limitations of the packaging medium provided. The unsupported bottom of the carton must be able to hold contents within carton.

#### 3.2 Packaging Identification:

##### 3.2A Packaging Identification for PDC's:

All packaging must be identified with a Mack/Volvo/Common part number, package quantity, Mack/Volvo/Common corporate identifier, a date code/lot number, and a brief description. Bar coding of the Mack/Volvo part number and the Mack/Volvo corporate identifier is required. Please reference Section 7.0, Part Identification Labels for further details on part labels. All printing must be a minimum of 3/161, in height, unless an exception has been granted. Whenever parts are manufactured outside of the United States, Country of Origin must be provided as stated in Section 2.11. VPNA does provide various sized pressure sensitive labels, in either a thermal transfer or laser material, at no charge, to both Mack and Volvo aftermarket suppliers. These can be obtained by faxing the Clerk, Material Handling, Parts Operations at 610-709-2261 your label requirements with the following information: ship to address, size of labels, style of labels, any special requirements and to who's attention the labels should be directed. Specifications for the labels that are provided are stated in Section 7.0, Part Identification Labels.

##### 3.3 Styles and Strength of Packaging Materials:

Strength and style of package is solely dictated by part characteristics, weight, and all parameters stated in the General Requirements Section, 2.0, and the following minimum requirements:

A. Corrugated board will be a minimum bursting strength of 200 psi\32 ECT. Certification markings that are in compliance with the National Motor Freight Classification item #222 and/or the Uniform Freight Classification Rule 41 are required on all corrugated material, (fig. 1).

FIG. 1



B. Chipboard material will be a minimum of .024 thick. Cartons weighing over 2 lb. must have flaps taped closed or a closure design that prevents accidental opening.

- C. Poly material will be a minimum thickness of .003 mil with closures heat-sealed.
- D. Individual parts packaging that weighs 100 lb. for Mack and 70 lb. for VPNA, or more shall be constructed, whenever possible, to allow for handling with material handling equipment
- E. Large or bulky items should have handholds constructed into packaging whenever possible.
- F. Dunnage used in primary packaging must never include printed newspaper.

### **3.4 General Recommendations:**

When choosing an appropriate package for given parts consider the following recommendations. Please be advised that these recommendations are not all-inclusive and further information can be obtained by communicating with the appropriate contact.

- A. Parts that are vulnerable to impact and are of a heavy or large nature should utilize a corrugated package.
- B. Parts that are vulnerable to impact and are small in size should utilize a chipboard package.
- C. Parts that are vulnerable to scoring or need to be unitized - washer, nuts, etc., (unit pack weighs less than 3 lb.) should utilize a poly package.
- D. Parts that are susceptible to damage by folding should utilize a support mechanism to prevent such damage.
- E. Parts that are of a fragile nature or that require surface protection need to have dunnage applied or protective wraps.
- F. Parts that are not susceptible to impact, scoring, friction, need to be unitized, etc. only need to be identified as stated in Section 7.0, Part Identification Labels.

## **4.0 Shipping Containers (Over pack / Secondary Packaging)**

### **4.1 General Requirements:**

The shipping container shall be sufficient to protect the parts enclosed for the carrier method being used if there is no existing specification in place by Mack Trucks. The supplier must at least comply with any written specification in publication by the carrier being used to transport material from the supplier's location to the designated Mack location. For example the latest issue of the National Motor Freight Classification Rules published by the American Trucking Association would be used for truck shipments.

### **4.2 Container Size:**

Container sizes, presuming part size permits, must be selected such that when arranged upright (corrugations vertical) on a standard 42" x 42" pallet; they do not overhang the edges of the pallet. The container should fully utilize the pallet deck area. Full pallet size containers, 42" L x 42" W x 34" H, (which includes pallet), should only be used when part size or quantity demands that large of a container. Pallet size containers must be sealed to prevent damage and pilferage. The use of two straps, one through each fork entry hole is the suggested manner for accomplishing this.

**Note: The PDC's accepts no responsibility for missing or damaged items when shipping containers are not properly sealed. Payment will be made only for parts actually received and not for what was shipped.**

In cases where an exception has been permitted for oversize containers, the pallets height, with load, should not exceed 44" overall. Container size must fit the quantity of parts contained therein, so as to minimize empty spaces and excessive dunnage.

Manually handled shipping container sizes will be as stated in Section 2.2 of the AIAG specification for Single and Multi-use Container Systems, RCB, May 1995.

**4.3 Container Construction and Material Requirements:**

Container construction and material requirements depend on the weight of the contents. Corrugated fiberboard is preferred rather than wood. In corrugated, RSC (regular slotted container), HSC (half slotted container), or FOL (full overlap) style boxes are required even for the largest size containers. For manually handled shipping containers, 200 PSI\32 ECT corrugated material is a minimum requirement. For pallet size containers, double wall 500 PSI\71 ECT (certification required) is the minimum requirement and must also be equipped with either a load-spreading top (a top that is stiff enough to transmit a top load to the four vertical walls), or have internal supports that can support the top toward the center and the four vertical walls. Due to stacking, container and pallets must have sufficient strength capable of handling a dynamic (transit) load as defined below.

Palletized Load Height: 10 in. to 25 in.	Units/Stack:	
10 in. to 25 in.		4
34 in.		3
44 in.		2

**5.0 Palletization**

**5.1 General Requirements:**

Order quantities constituting one pallet load or more per shipment must be palletized. Multiple package shipments exceeding a total weight of 200 lb. must be palletized. Individual cartons weighing 100 lb. or more must be palletized.

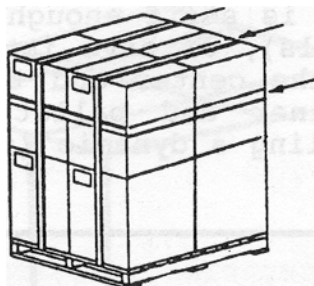
**5.2 Strapping, Securing Load to Pallet:**

The load is to be securely strapped to the pallet. Use edge protectors under straps to prevent undercutting of the straps into the container/material. An alternative strapping method may be used using only 3 straps (**fig. 3**), providing load stability is not jeopardized. Use a minimum of 2 straps in each direction for a total of 4 straps (**fig. 3**). Either method of strapping is acceptable, providing load stability is not jeopardized. Metallic or non-metallic banding is acceptable, but non-metallic is preferred whenever applicable to do so.

FIG 3:

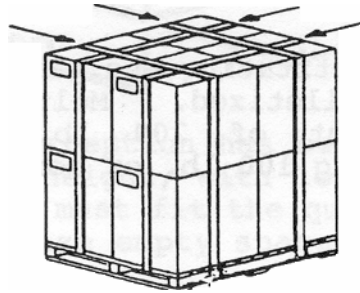
3-way banding

Material: Plastic or metal strapping at least 1/2 inch wide. Method of application: Two bands through fork hole entries (one through each side). Apply one horizontal band around the top of the unit as shown.



#### 4-way banding

Material: Plastic or metal banding at least 1/2 inch wide. Method of application: Two bands per each direction, through each fork hole entry as shown.



#### 5.3 Stretch Wrap, Securing Load to Pallet:

Shrink or stretch wrapping may be applied for a secure load as an alternative, if load stability can still be achieved. The stretch wrap must extend at least 3" below the top of the pallet deck to properly secure the load to the pallet and overlapping the top of the unit being palletized by a minimum of 2 ". Parts that are susceptible to damage due to being top loaded need also be protected placing a piece of corrugated material on the top of the palletized unit prior to stretch wrapping.

#### 5.4 Load Requirements:

Pallet loads must be uniform and are not to exceed 44" overall in height. The top of the load must be flat floor safe stacking. Gross weight per pallet shall not exceed 2000 lb. Where stacking capability of the palletized load is critical due to weight or part configuration, the maximum safe stacking height should be specified on the container; (i.e. Do Not Double Stack).

#### 5.5 Mixed Loads:

If in the same shipment, the quantities are less than a full pallet load, more than one part number may be placed on a pallet. However the pallet must be marked "Mixed Load". All cartons involved with mixed loads must be identified as stated in Section 8.1, Mixed Loads. A packing list must also clearly indicate the cartons that the items are contained in.

**Note: Larger, heavier quantities must be on the bottom of mixed loads with smaller, lighter quantities on top.**

#### 5.6 Miscellaneous:

Broken or cracked pallets that cannot be handled without causing possible damage are not acceptable and will be rejected. Pallets that are damaged and can be handled will be replaced, and all ensuing cost will be debited back to the supplier responsible. When strapping is used, it should not be stapled or nailed to the pallet. Material must never overhang the perimeter of the pallet.

### 6.0 Pallets/Emballage

#### 6.1 Mack Trucks and VTNA Aftermarket Returnable Packaging:

**The production of high quality requires that all the stages in the manufacturing process are of the highest quality. This also applies to the materials handling system.**

**Packaging is an important and obvious part of a functional material handling system. To meet the demands of a rational and efficient material flow, packaging must function in its environment.**

Volvo Parts North America contracts with Volvo Logistics North America, Inc. for returnable packaging material, also known as Emballage. The concept of VLNA standard packaging is that packaging can be returned and reused several times and in quite a few stages, which makes it an environment friendly alternative.

VLNA standard packaging and distribution system makes it possible to move goods efficiently and economically from the supplier to customers, retailers, and importers that are registered as users. Emballage is supplied to registered users free of charge. **(Page 30)** There are seven standard sizes of pallets and three sizes of plastic totes available. **(Page 31)**. Each standard size can also be modulated to accommodate production and requirement fluctuations.

All Volvo packaging material must be accounted for on the VLNA Packaging Material Deliver Receipt **(Page 32, PMR)**. This process keeps track of the packaging as it moves from one user to another. These Emballage are not to be used for product containing acids or corrosive product.

The User Contract indicates there are 3 mandatory Inventories in which all users must participate. These are generally held in January, April, and September each year. Communication of the scheduled inventory is faxed well in advance, to give you time in assuming your emballage account and processes are in order.

In exceptional cases, shipments with two or more part numbers may be packaged in one emballage container.

**Conditions for such joint package are:**

Determined by the Procurement Coordinator in collaboration with the supplier & Emballage Packaging Instructions.

The total volume of goods is small and can be packaged in a pallet with more than one side frame.

The parts are packaged individually in separate packages, cartons, with one in the same number and quantity visible when the lid is removed.

**All containers must have a lid and be properly banded.**

To obtain additional information on Volvo returnable packaging contact:

**Volvo Logistics North America, Inc.**  
**Packaging Administration**  
**4769 Wurno Road**  
**Pulaski, VA 24301**  
**336-393-3021**  
**[www.volvologistics.us](http://www.volvologistics.us)**

**6.2 General Requirements:**

The Mack Trucks Parts Operations requires the following pallet style:

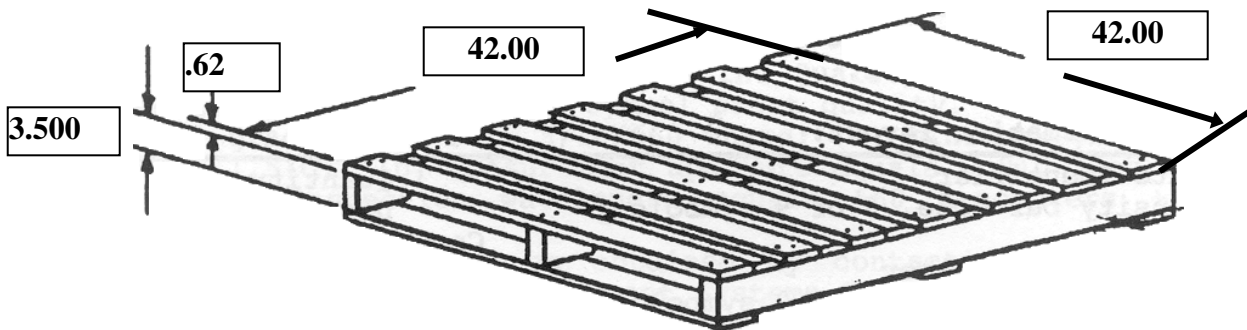
Preferred pallet dimensions shall be 42" long by 42", wide, with a maximum fork entry hole of 3 1/2" high by 9" wide to allow entry of a standard lift truck or hand truck. The centerlines of each fork entry opening should be 1611 to 2411 apart **(fig. 5)**. Pallet loads should meet the ideal height of 34". Parts that cannot conform to this height restriction must be approved prior to shipping. Two-way entry skids are preferred. Pallets to be double faced, with

either 3 or 4 runners, as long as pallet will support 2000 lb. Specifications will be in accordance with that of the National Wood Pallet and Container Association. In the event this size pallet is not in your present inventory, the following is a listing of dimensions of acceptable pallets. Anything other than these dimensions must have approval prior to shipment by the Packaging Engineer.

Length	Width	
42"	42"	
40"	40"	<b>"TWO-WAY PALLETS ARE PREFERRED."</b>
40"	42"	
32"	30"	
30"	42"	

FIG 5 .

1. Material: #3 yellow pine or equivalent.
2. Construction: nailed, minimum 2 in. screw shank nail, chisel point.
3. Pallet top and bottom decking 1" x 4" x 42" nominal.
4. Stringers 2" x 4" x 42" nominal.



### 6.3 Material Requirements:

Pallet construction should be heavy duty, (warehouse grade), not the expendable type, structurally sound with all boards in place. All deck boards to be affixed using at least 21, high screw shank chisel point nails. Stringers and deck boards shall be smooth sawn or surfaced to square edge uniform dimensions.

### 6.4 Miscellaneous:

If part length requires a longer pallet, it must be sized accordingly to fit the item or items and be approved prior to shipment. Block type pallets are not acceptable unless approved prior to shipment by the Packaging Engineer, Mack Trucks, Inc.

## 6.5 ISPM 15 Guidelines:

Regulations regarding wooden packaging must be adhered to on all shipments to North America. All wooden packaging must be treated according to one of the methods approved in the ISPM-15 (International Standards for Phytosanitary Measures #15).



Mack Trucks and VPNA may choose to apply these same regulations for domestic shipments within North America as it necessitates.

## 7.0 Part Identification Labels

### 7.1 Parts Identification Labels, Primary Packages Bar Code, RP801C:

In order to meet the need of our dealers, Mack Trucks, Inc and VPNA Parts Operations has adopted bar coding of individual service parts as specified in the ATA/TMC Recommended Practice - RPBOIC. It is required that all parts be identified with the Mack/Volvo part number, package quantity, Mack/Volvo/Common corporate identifier, lot number or date code and a short part description. Country of origin is required if the part is produced outside the United States as noted in Section 2.10, Country of origin. Each label should have the above listed information imprinted on the label as shown in (fig. 6A) and (Page 4, fig 1):

**Note: Date/Lot Code can be the date of labeling/packaging the item being marked or a lot number significant to the manufacturer or a combination of both.**

FIG 6A. Information layout:

Corporate Identifier High density bar code, 3 of 9 symbology	Quantity Description Country of Origin
Mack Trucks part number High-density bar code, 3 of 9 symbology	Date/Lot code

As stated above, all bar coding will be code 39 symbology, as outlined by the Automated Identification Manufacturers, specifically the AIM Uniform Symbology Specification Code 39. It will be high density, with the wide to narrow ratio falling between 2.5 to 1 and 3.0 to 1, with ANSI Fact I identifiers, and human readable form for the following items, regardless of brand identification:

1. ATA/VMRS corporate identifier/manufacturer's name code. All parts will use ATA/VMRS code "XXXXX" with a data identifier of "16V".

- |     |          |                  |          |
|-----|----------|------------------|----------|
| 1.1 | Mack -   | ATA/VMRS code is | "MACKX." |
| 1.2 | Volvo -  | ATA/VMRS code is | "VLVNA." |
| 1.3 | Common - | ATA/VMRS code is | "VPNA."  |

2. The complete ordered part number with a data identifier of "1P".

**Note: The two items indicated above will always appear in stacked form as shown in RP801C.**

All other information as indicated in (fig. 6A above and page 2, fig.1), will be in human readable form only; description, country of origin, quantity and date/lot code.

The ANSI X3.182, Bar Code Print Quality-Guideline shall be used to determine bar code symbol print quality. The minimum symbol grade shall be 1.5/10/660 where: (a) minimum symbol grade equals 1.5(C); (b) measurement aperture equals 0.010 inch (0.254 mm); (c) inspection wavelength equals 660 manometers +/- 10 manometers.

Copies of RP801C may be obtained by contacting the American Trucking Association, Management Systems Council.

## 7.2 Label Specifications:

VPNA, LLC provides, at no charge, blank labels with the Mack/Volvo/Common logo in either thermal transfer or laser material with the following specifications:

### A. Thermal transfer material

Available sizes: 4.50 in. x 1.78 in.  
4.00 in. x 1.50 in.  
3.50 in. x 2.375 in.

Face stock:

Base weight - 24 x 36 - 500 sheets	48.0# +/- 4.0#
Caliper	3.2 mils +/- .3 mils
Color	White
Brightness	78% Min
Opacity	75% Min
Smoothness	150 sec Min
Tensile strength (MD)	4.5 kg Min
(CD)	3.5 kg Min
Tear strength (MD)	25g Min
(CD)	25g Min

Liner:

Type	Super Calendared Kraft
Color	White
Base weight	43# +/- 3.7# per ream
Caliper	2.6 mils +/- .2 mils
Opacity	68 Max

Adhesive: Emulsion Acrylic.

Application temperature: 32 deg. F - 120 deg. F

Service temperature: 18 deg. F - 120 deg. F

Peel Adhesion g/l:

180deg. F @ 12"/m	stainless steel = 1500g
	polyethylene = 90g
	corrugated = 750g

Loop Tack, g/i": 750 min

Shear, (hrs): 24+

Shelf Life: One year at 72 deg. F and 50% Relative Humidity

### B. Laser material

Available sizes: 4.00 in. x 2.00 in.  
4.00 in. x 1.50 in

Face stock:

Base weight	50.0# +/- 10%
Caliper	3.7 mils +/- 10%
Color	White
Brightness	87% Min

Opacity		87% Min
Smoothness		150 sec Min
Tensile strength (MD)	(CD)	24
		12
Tear strength (MD)	(CD)	47
		49

Liner:

Type	Super Calendared Kraft
Color	White
Base weight	54# +/-10%
Caliper	3.2 mils +/-10%
Opacity	68 Max

Adhesive: Emulsion acrylic.

Application temperature: 40 deg. F - 120 deg. F

Service temperature: -65 deg. F - 200 deg. F

Peel adhesion g/l:

180deg. F @ 12"/m

stainless steel = 1500g

polyethylene = 90og

corrugated = 750g

Loop Tack, g/i": 750 min

Shear, (hrs): 24+

Shelf life: One year at 72 deg. F and 50% Relative Humidity

### 7.3 Printer Specifications:

All labels listed above are designed for either thermal transfer or laser style printers. Please designate the type of labels you require when ordering and note any special requirements such as label orientation and/or direction of wind.

### 7.4 Miscellaneous:

It is acceptable to use a blank white label as long as all information previously specified appears on the label. Hand lettering will no longer be acceptable. Suppliers that have printers that are capable of reproducing the individual part labels with **logo must have approval** for such usage prior to implementation. A corporate logo can be provided on computer disc in various formats upon request. Labels are not to be used to maintain closure of container.

## 8.0 Shipping Labels

### 8.1 Shipping Labels, Part Identification

#### 8.1A Secondary Packaging Mack, Inc.:

To standardize incoming identification of material, it is required that you use a bar code shipping label on incoming material (**fig.7**). Listed below are the requirements for bar coded shipping labels, they are not all-inclusive and are only intended to give the reader a general overview. For more detailed information on this subject, please obtain a copy of Mack Trucks, Inc. Supplier Specifications for Bar Code Shipping/Part Labels, Document SUPLBL 002/A is available. Contact Mack Trucks, Inc. Corporate Material Management Group in Allentown, PA.

Each shipping container must be identified on two adjacent sides, with a label that is legible and with the following information: part number, quantity, supplier number, be included on each label in the designated data areas and shall be displayed in both human readable characters and bar code symbols. Part description and manufacturer date will also be displayed but in human readable form only.

FIG. 7

PART NO. <b>158GBA59301A9283</b>	
Quantity <b>123456</b>	PURCHASE ORDER <b>MFG123456</b>
SUPPLIER <b>0611500</b>	ENG CHANGE LEVEL <b>AC2</b>
SERIAL <b>123456871</b>	DESCRIPTION
	<b>ENGINE BRACKET</b>
	MFG. DATE <b>10-25-86</b>
<b>MACK TRUCKS INC. 2100 MACK BLVD ALLENTOWN, PA 18105</b>	

In the case where multiple parts and/or purchase order numbers are in one shipping container, the load should be marked with a label with the word "Mixed Load" on two adjacent sides (**fig.8**). Each sub part of the item shall be identified with a shipping/part identification label or other agreed upon label.

FIG. 8

<b>MIXED LOAD</b>	
SUPPLIER	<b>0611500</b>
SERIAL	<b>123456871</b>
<b>MACK TRUCKS INC. ALLENTOWN, PA 18105</b>	

The Transport and Product label is comprised of a series of information blocks utilizing the AIAG B10 format. Individual blocks require block titles.

Some information blocks require a bar code symbol. When a bar code is required, it must also contain a data identifier (DI).

The data identifier must conform to the American National Standard Institute (ANSI) material handling data identifier standard. The enclosed VPNA product identification / shipping

document will specify the identifier required.

If you seek additional standard information you can contact the American National Standard Institute (ANSI) at 212-642-4900 or [WWW.ANSI.ORG](http://WWW.ANSI.ORG).

### 8.1B Secondary Packaging VPNA, LLC.:

The transport label is intended to be used on all transport packages shipped with material to VPNA. It is expected that the label will be used in conjunction with advance shipping information i.e., the "Dispatch Advice Message" that is transmitted between parties electronically. The transport label is divided into two sections: "**Shipping Section**" and "**Part Identification Section.**"

<b>Shipping Section</b>	<b>Bar Code Identifier</b>
Information about the destination of the goods	
<b>Receiver</b> VPNA unloading location	----
<b>Gross Weight</b> Total transport unit weight	----
<b>Net Weight</b> Material weight within one transport unit	----
<b>Number of Boxes</b> Number of packages within one transport unit	----
<b>Sender Name and Address</b> Supplier name and address, country of origin	----
<b>Dispatch Number</b> Supplier advice note number	N
<b>Purchase Order Number</b> VPNA Supplier order number	----
<b>Suffix</b> Each Volvo unit has its own suffix; it points the direction of the material. See Misc. section.	----

#### Part Identification Section

The parts identification section is divided in two sections used for information related to the product.

A. One section with bar codes for: Part Number, Quantity, Supplier, and Serial Number.
--

	<b>Bar Code Identifier</b>
<b>Part Number</b> Volvo's Part Number	<b>P</b>
<b>Quantity</b> Quantity in the Packages	<b>Q</b>
<b>Supplier</b> Supplier Number assigned by Volvo	<b>V</b>
<b>Serial Number</b> Supplier package or transport unit identification	<b>S</b>

B. One section with special data: Description, Supplier Part Number, Date Dispatch, and Engineering Change Number.

	<b>Bar Code Identifier</b>
<b>Description</b> Volvo part Description	-----
<b>Engineering Change</b> Buyer's engineering change number	-----
<b>Date Dispatch</b> Material ship date	-----

Alternative data items within the shipping section and special data area are to be agreed upon between the supplier and VPNA.

#### **Types of Labels**

Three types of labels are required depending on how the material is packaged.

**Single** – The single label shall be used to identify a single package containing the part number.

**Master “M”** – A master load label shall be used for containers, pallets, skids, holding more than one single pack of the same part number.

**Mixed “G”** - A mixed load label shall be used for containers, pallets, and skids holding more than one single pack of different part numbers.

## Master Label for Single


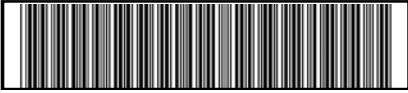
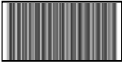
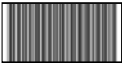

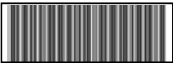
### Product Identification and Transport Label

Receiver	Suffix		
Purchase Order No (K)	Sender name and address		
	Net Weight lbs.	Gross Weight lbs.	No of Boxes
Part Number (P)			
Quantity (Q)  Supplier (V)  Serial Number (S)	Description		
	Supplier Part Number		
	Date Dispatch	Eng Change	
	Dispatch Number (N)		

### Master Label for Transport Unit "M"

Master labels must be used when there are a number of common items packaged within the same transport unit. Each package must be individually labeled with a "Part Identification" labels. The quantity on the "Master" label must be the sum of the quantities within all packages. The transport unit must be labeled with full transport label. The bar-coded serial number on the label must be prefixed by "M". Individual packages must have a prefix "S" and must be used on all Small Box shipments.




**Master Label (M) – Fig.2**

Receiver <b>Volvo Parts North America</b> <b>8288 Green Meadows Drive</b> <b>Lewis Center, OH 43035-9475</b>	Suffix <p style="text-align: center;"><b>953</b></p>		
Purchase Order No (K) <p style="text-align: center;"><b>P123456</b></p> 	Sender name and address		
	Net Weight lbs. <p style="text-align: center;"><b>82</b></p>	Gross Weight lbs. <p style="text-align: center;"><b>1045</b></p>	No of Boxes <p style="text-align: center;"><b>5 - 8</b></p>
Part Number (P) <p style="text-align: center;"><b>2344-3456</b></p> 			
Quantity (Q) <p style="text-align: center;"><b>42</b></p> 	Description <p style="text-align: center;"><b>Panel, Right</b></p>		
Supplier (V) <p style="text-align: center;"><b>6316</b></p> 	Supplier Part Number <p style="text-align: center;"><b>135792468</b></p>		
Serial Number (S) <p style="text-align: center;"><b>53510</b></p> 	Date Dispatch <p style="text-align: center;"><b>040501</b></p>	Eng Change <p style="text-align: center;"><b>P1A</b></p>	
Dispatch Number (N) <p style="text-align: center;"><b>40508</b></p> 			

**Master label Mixed Item Pack "G"**

A Mixed Item Load label must be used when a number of packages with different part numbers are loaded within the same transport unit. Each package must be labeled with a "Part Identification" label. The transport unit must be labeled with the full transport label on which the part number and quantity field is left blank. A "G" must prefix the Serial Number on the label. Individual packages may have a prefix of "S" and must be used on all Small box shipments. The master label is affixed to a special holder.

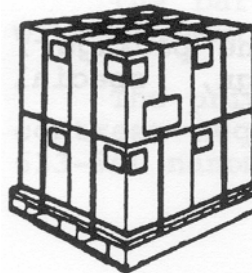
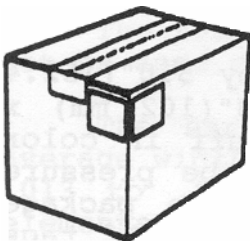
Master Label (G) – Fig.3

Receiver <b>Volvo Parts North America</b> <b>8288 Green Meadows Drive</b> <b>Lewis Center, OH 43035-9475</b>	Suffix  <b>953</b>		
Purchase Order No (K)	Sender name and address		
	Net Weight lbs.	Gross Weight lbs.	No of Boxes
Part Number (P)			
Quantity (Q)	Description		
	Supplier Part Number		
Supplier (V) <b>6316</b> 	Date Dispatch <b>040501</b>	Eng Change <b>P1A</b>	
Serial Number (S) <b>53510</b> 	Dispatch Number (N) <b>40508</b> 		

Label location should be towards the top edge of the container, parallel to the top edge of the container as shown in (fig.9). Labels should be placed no closer than 1.25 in. (32 mm) from any container edge. Label placement toward the center of the sides of rectangular, corrugated containers should be avoided because excessive abrasion damage may result during transportation and render the label unusable. Wrap around labels are acceptable as long as quiet zones are within specifications.

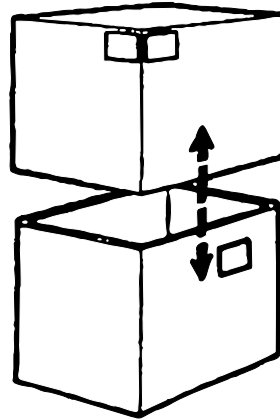
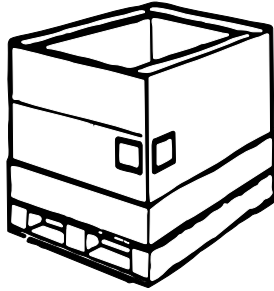
FIG. 9

Cartons: Identical labels should be located on two adjacent sides. The upper edges of the labels should be as high as possible up to 20 in. from the bottom of the carton.



Cartons on Pallet: One Master label or one Mixed Load label may be used as described previously. Two (2) master labels on adjacent sides or two identical mixed load labels on adjacent sides.

Pallet Box: Identical labels should be on two adjacent sides.



Telescopic Containers: Identical labels should be located on two adjacent sides of the outer box. Some applications may also require identification of the inner box.

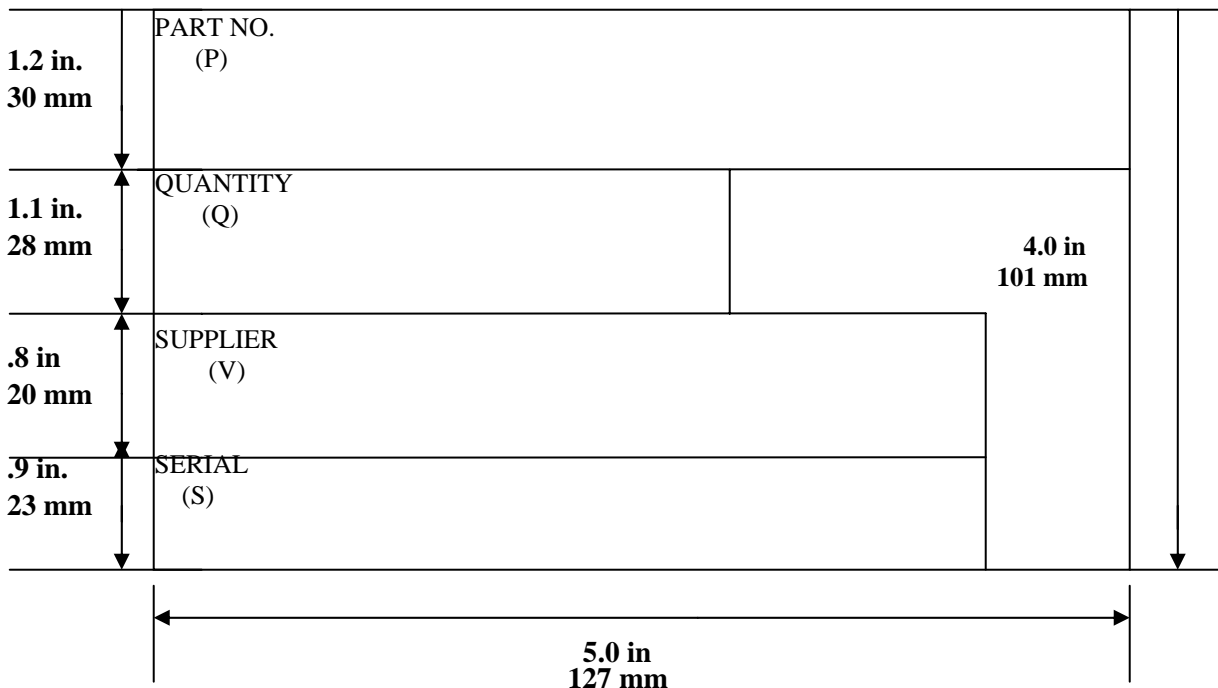
## 8.2 Size and Materials Mack, Inc.:

The minimum label size shall be 4.0"(102 mm) by 5.0"(152.4 mm) wide (**fig.10**). The maximum size will be 4.011(102 mm) x 6.511(165 mm). The label paper will be white or buff in color with black in color printing. Adhesives types can be pressure sensitive or dry gummed as long as adherence to the package substrate is assured and

application is wrinkle free. If tags are used, tag size shall be the same format as that of the shipping labels specified above and durable enough to assure readability at point of use.

If the specified label cannot be affixed to the package / container because of container size or design, special arrangements will be required.

FIG.10 Shipping /Parts Identification Label:



**8.2A Bar Code Symbology:**

Bar codes shall be the 3-of-9 code (39) type and shall conform to the Bar Code Symbology Standards for the 3-of-9 Bar Codes, published by the Automotive Industry Action Group (AIAG).

The four characters, (\$,/,+,% ) of the 3-of-9 symbology shall be used on the shipping/parts label.

The bar heights shall be a minimum of 0.5"(13 mm). The average width of the narrow elements shall be within the range of .013 to .017". The ratio of the wide elements to the narrow elements shall be 3:1 with an allowable range of 2.8:1 to 3.2:1.

Check digits shall not be used in the bar codes.

The bar code shall have leading and trailing quiet zones with minimum widths of 0.25 in. (6.3 mm) each.

The printed bar code symbol shall meet the reflectivity and contrast requirements at all electromagnetic wave lengths from 633-900 manometers.

It is the responsibility of the supplier to provide bar code shipping labels that meet these specifications.

**8.3 Size and Materials VPNA:**

The size of the label shall be determined by a combination of the data requirements and the printing technology. A label of 4.0 inches high and 6.5 wide should handle all known conditions.

The paper must be white with black printing, with a minimum print contrast of PCS = 75.

**Note: The label must be durable enough to ensure readability at its destination.**

Adhesive labels may be pressure - sensitive or dry gummed as long as adherence to the

package substrate is assured and removable from the small boxes (Volvo plastic container). To ensure readability, a very high print quality is demanded. To achieve this quality, a laser thermos - or thermos - transfer printers are highly recommended. Most matrix (impact) printers cannot fulfill the quality demands.

## 9.0 Wooden Crating

### 9.1 General Requirements:

Suppliers must comply with the latest standards for wooden packaging materials, ISPM 15. Wooden crating material must be marked in accordance with those guidelines established.

Lumber must be seasoned, reasonably sound, free from insect infestation, and free from cross grain and knots which would interfere with nailing or stapling, or knots which are 1/3 or more the width of the lumber used (**fig.11**).

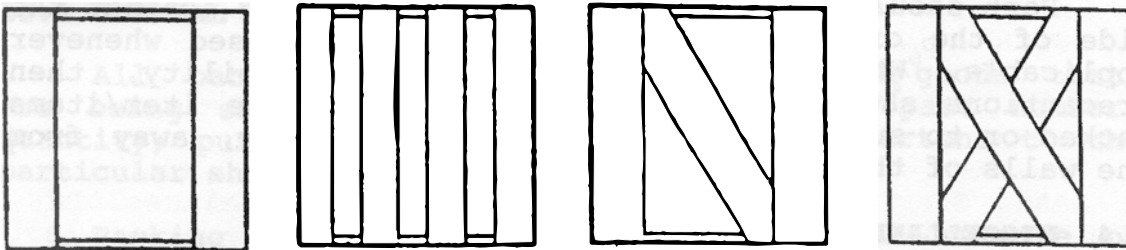
FIG.11



Broken cross boards are due to insufficient thickness or poor quality wood. A knot may not be greater than 1/3 the width of the board.

Crates must be constructed with outer framework consisting of upright and horizontal members, with additional diagonal and upright and horizontal members when needed to assure proper strength and rigidity (**fig.12**).

FIG. 12



All joining members must be double nailed/stapled. Crates must be designed with transverse cross members across the base of the crate to protect the underside from damage by material handling equipment. Also, crate must have runners at least 3.5" to allow for fork entry.

### 9.2 Fastening:

All boards are to be joined together with either the appropriate sized ring shank nail or divergent type point staple. Size of either item is determined by board thickness.

All suspending devices should be fastened using an appropriate sized lag bolt or carriage bolt, lock washer, and nut combination, whichever is best suited. Lag bolts when applied should only be fastened into a surface that allows for complete insertion into the material being fastened to.

### 9.3 Interior Packaging:

Part should be protected from rubbing or chafing against the side of the crate. Rust prohibitive should be used whenever applicable. When damage from shock is a possibility, then precautions should be taken to properly cushion the item/items packed or to suspend the article within the interior, away from the walls of the crate.

#### **9.4 Miscellaneous:**

Design of crate or application of hardware should never present itself as a safety hazard. This is to include up to removal of all items contained within. Part Identification Shipment labels referred to in Section 8.1 should be used when appropriate and "Mixed Load" labels when the crate contains more than one part.

### **10.0 Packaging for Material Stored Outside**

#### **10.1 Container Design:**

Packaging for all material designated for outside storage shall be able to hold and protect the parts from the elements of weather for up to one year. The contents should be in a condition to be used in any season of the year, without additional handling or treatment.

#### **10.2 Identification:**

Containers will be identified using the Part identification Shipping Label referred to in Section 8.1. Labels for material stored outside should be protected to ensure their usefulness.

#### **10.3 Miscellaneous:**

There is to be one part number per container only. Review part prevention for any special requirements relating to rust protection, surface protection, ultraviolet damage, etc.

### **11.0 Packing List**

#### **11.1 General Requirements**

All packing lists must accurately describe the goods are being shipped. They must contain the Mack part quantity, purchase order number, and number of cartons particular shipment.

Packing list to be securely fastened to the outside of shipping container on any one of the vertical walls or may be enclosed inside of container as long as container is clearly marked "Packing List Enclosed".

Printing on packing list to be clear and legible. When items are contained in multiple containers, packing list must clearly reference the container the items are contained in.

### **12.0 Procurement-Supplier Responsibilities**

Advise within 48 hours if they will NOT be able to provide the qty of parts on the requested date. If no response, it is assumed that the schedule is ok. We usually give up to 52 weeks of forecasts to the supplier. Suppliers should use this info to procure raw materials or stock finished inventory (i.e. finished goods, or work-in-process). We expect flexibility from our suppliers when we have changes in our needs. On fast moving parts we require 1-week 'reaction' time.

The dates given to the supplier on the schedules are SHIP dates. We have factored transport time and warehouse handling time into our requirements so the supplier DOES NOT have to make additional allowances for that. We measure each supplier's performance regarding

their adherence to shipping the requested qty of parts on the requested WEEK. Part shortages, overages, early and late shipments are monitored and will be addressed with suppliers when excessive.

We would like all suppliers to receive our schedules using EDI (Electronic Data Interchange). This allows Volvo system to send orders electronically to the supplier's system, which in turns drives their raw material ordering. If these systems 'talk' to each other without manual intervention, this should decrease errors. In case there are errors, those kick out on a report at the supplier's location for review. Once suppliers ship, they transmit to Volvo an ASN (Advance Shipping Notification) that advises us that parts have shipped and the method/carrier used. Suppliers that use this method are also required to send invoices electronically, which facilitates payment of invoices. If you would like help in getting this set up, please contact our EDI group.

If the supplier advises that he has capacity problems due to demand from other Volvo companies, it is imperative that the supplier does not give one Volvo company preference over the other. They should advise their respective Volvo contacts (including buyer) so that a mutual agreement can be made on how to distribute the parts to minimize the impact to the VOLVO'S end user.

Suppliers are expected to provide proactive and timely communication to their procurement analyst of possible situations that could affect delivery schedules (i.e. major union negotiations, extended vacations, plant closings, or movement of production to another facility).

If you are not able to provide a part that is ordered, you must fill out a Parts Data Change Request in order for us to update our parts database. The Procurement analyst can provide this form and instructions on how to fill it out.

Parts that are identified as being in backorder should be given top priority to being resolved since most of the time, if we have stock in the warehouse, the supplier will not be requested to make Ship Direct orders (ref. VAS for Ship Direct info) to our dealers.

### **13.0 Transportation Routine, VPNA**

#### **13.1 Routing Letters**

All suppliers are provided with unique transportation instructions for their shipments.

VPNA uses a third party logistic company "Volvo Logistic North America, Inc." to provide these instructions. Routing instructions are specific to shipping points, shipment weight, transit time requirements and customer's broker information for U.S. Customs clearance, etc. These instructions are distributed by email or fax to each supplier. These instructions should be followed for all shipments. If you have any questions or concerns, VLNA representatives can be contacted directly by phoning (540-994-4008).

#### **13.2 LTL Shipments (Less Than Truckload)**

Normal shipments are traditionally transported by either less than truck load, milk runs, or full truck load carriers for suppliers located in North America. Normal shipments for suppliers outside of North America routinely are moved via vessel.

The routing letter provided by VGLNA specifies: break weight for LTL to truck load moves, primary and secondary carriers, small packaging shipments instruction, expedite instructions, etc. In all instances, VGLNA is responsible for establishing transportation routines. Any deviations from the provided routing instruction will result in financial penalty.

### **13.3 Expedite Requests**

In the event normal shipping methods are inadequate for timely delivery, VGLNA has several expediting options available, which incorporate special VPNA rates. To ensure timely delivery at cost effective rates, expedite shipments can be arranged by a VPNA

Procurement Analyst. All Expedited shipments transported by air or ground requires a "Premium Transportation Authorization number". The PTA number can be obtained by contacting the appropriate VPNA Procurement Analyst. The Analyst will discuss with the Supplier the reason for shipment and will assign financial responsibility. The issue of a PTA number does not guarantee VPNA will pay for all transportation costs.

### **13.4 Customs Clearance**

VPNA routinely imports components from suppliers located throughout the world. Strict adherence to import regulations as governed by United States Customs is expected by all suppliers. VPNA's custom compliance officer is onsite at our corporate offices located in Greensboro, North Carolina and can be reached by telephone at (336-393-4786).

All instructions identifying VPNA authorized customs brokers are available through the routing instruction provided by VGLNA.

Typically, Wilson Logistics in Portsmouth or Chesapeake, Virginia clears all international shipments routed by vessel.

All NAFTA shipments requiring border-crossing clearance should be filed through the VPNA custom agent at the border crossover location.

Emery Air handles international air shipments from Canada and Mexico suppliers. The VPNA Procurement Analyst should book international air shipments from Europe.

While Emery is the current VPNA air transport carrier, this may change in the future. Suppliers should always revert to the current routing instruction issued by VGLNA for the most up to date instructions.

Any question in this area should be directed to the VPNA Procurement Department.

### **13.5 Packing List**

All shipments to Volvo Parts North America require a "Packing List". The packing list should be located in the same general area as the product label and should be enclosed in a plastic sleeve. The following information must be included on the packing list.

- Supplier Name and Address
- Ship to Address
- Your Order Number
- Volvo Purchase Order Number
- Suffix Number
- Ship Date
- Gross Weight Lbs
- Net Weight Lbs
- Packing slip Invoice Number
- Description of Product
- Volvo's Part Number
- Supplier part Number
- Quantity
- Hazardous Material Identification Number
- Hazardous Material Proper Shipping Name

## 14.0 Conclusion

Your cooperation is essential for the safe arrival and processing of shipments. Should you have any comments or suggestions to help us attain these this goal, please feel free to contact the Packaging Engineer for Mack PDC's and the Procurement Coordinator and Packaging Engineer for VPNA PDC's.

### 14.1 Suffixes:

Volvo Penta (Atlanta PDC) = 884

Volvo Construction Equipment ( Columbus PDC) = 949

Volvo Truck (Columbus PDC ) = 573

### 14.2 Usage:

The suffix number is used to control deliveries, economical and administrative routines. The suffix number:

- \* controls the goods flow
- \* states the purchase reporting department
- \* states the receiver of invoice
- \* controls the invoice control routines
- \* states the receiving inspection department
- \* states the material controller department
- \* states the customs fees etc
- \* states the incoming goods reporting routine

1. Review the purchase order for special labeling instruction.
2. Dangerous goods must be labeled in accordance with Federal, International regulations in force.

### Receiving locations

Volvo Parts North America, Inc.  
8288 Green Meadows Drive  
Lewis Center, OH 43035  
Main Number (740-549-6400)

Volvo Parts North America, Inc  
Duluth PDC  
3020 Evergreen Drive  
Duluth, GA 30096  
Main Number (770-813-9125)

## 15.0 References

1. ANSI X3.182, The American National Standard Bar Code Print Quality-Guideline, American National Standards Institute, 11 West 42nd Street, New York, NY 10036
2. ANSI/F.A.C.T. 1, The American National Standard Fact I Data Identifier Standard, American National Standards Institute, 11 West 42nd Street, New York, NY 10036
3. Vehicle Maintenance Reporting Standards Handbook, Management Systems Council, American Trucking Association, 220 Mill Road, Alexandria, VA 22314.
4. ATA/TMC, American Trucking Association/The Maintenance Council, Recommended Practice-RPBOIC, Management Systems Council, American Trucking Association, 2200 Mill Road, Alexandria, VA 22314
5. AIM Uniform Symbology Specification Alpha Drive, Pittsburgh, Pa 15238-2802  
Code39, AIM USA, 634 Alpha Drive, Pittsburgh, PA 15238-2802
6. AIAG, Single and Multi-Use Container System Guidelines, RCB, Automotive Industry Action Group, 26200 Lahser Road, Suite 200, Southfield, Michigan 48034
7. AIAG, Shipping/Parts Identification Label Standard, B3, Automotive Industry Action Group, 26200 Lahser Road, Suite 200, Southfield, Michigan 48034
8. NAPPO, <http://www.napso.org/Standards/Woodpackaging-bil.htm>.
9. USDA APHIS, <http://www.aphis.usda.gov/ppq/swp/>

Example A: Parts Operations Packaging Specifications Form

PARTS OPERATIONS  
PACKAGING SPECIFICATIONS FORM

1

Originator: \_\_\_\_\_  
Location: \_\_\_\_\_  
Date: \_\_\_\_\_

2

Part # \_\_\_\_\_ \*Part Dimensions: L \_\_\_\_\_ W \_\_\_\_\_  
Pkg. Qty. \_\_\_\_\_ Description \_\_\_\_\_ H \_\_\_\_\_ Wgt. \_\_\_\_\_

3

Package Description: \_\_\_\_\_ L \_\_\_\_\_ W \_\_\_\_\_ H \_\_\_\_\_  
Material \_\_\_\_\_ Test \_\_\_\_\_ Style: \_\_\_\_\_  
Flute \_\_\_\_\_ Label \_\_\_\_\_

Description of Packaging and any specific instructions:

Package Code Assigned: \_\_\_\_\_

Labor \_\_\_\_\_ Approval: \_\_\_\_\_

Cost \_\_\_\_\_

Material Cost \_\_\_\_\_ Date: \_\_\_\_\_

TOTAL

Buyer \_\_\_\_\_

Vendor \_\_\_\_\_

Packager \_\_\_\_\_ Cost \_\_\_\_\_ Contact \_\_\_\_\_

- NOTE: All dimensions are in inches and weight in lbs.

Example B: Supplier Packing Instructions



Volvo Parts North America, Inc.

## Supplier Packing Instructions

Emballage Account Number

Supplier Number:

Company Name:

Street Address:

City:

State / Province:

Postal Code:

Country:

Issuer:

Suffix:

Return Fax:

**(740) 549.6401**

Volvo Part Number

Supplier Part Number

Description:

Revision:

Standard Order Quantity:

Volvo Packaging Code:

Pallet Type:

Number of Frames:

Number of Spacers:

Number of Lids:

Plastic Blue Boxes:

Other:

Instructions:

Notes:

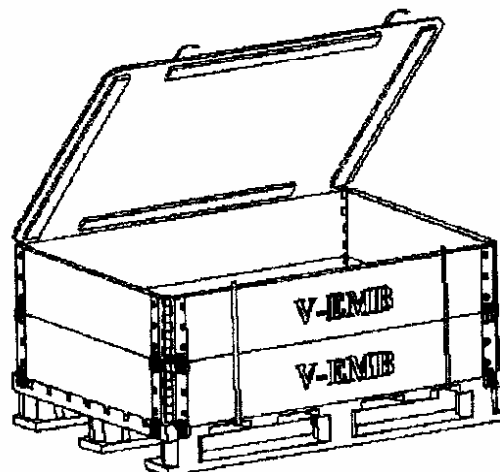
Pallet should be fitted with a lid, strapped, and marked clearly on the outside as per Volvo instructions.

Please return a confirmation of receipt of these instructions within 7 days via fax or email to issuer.

### Example C: Pallet Specifications

#### Pallet specifications

Size:	mm Inches	Series	Emb No.	Maximum Capacity (in lbs.)
	1220 x 815 48 x 32	L	1	2,205
	815 x 610 32 x 24	K	2	1,543
	1630 x 1220 64 x 48	F	5	2,205
	1445 x 815 57 x 32	G	6	2,205
	1800 x 815 71 x 32	H	9	2,205
	2400 x 815 94 x 32	700	701	2,205
	2800 x 1140 110 x 45	700	724	2,205



# Proforma Invoice (PMR)

## Fax Order Form

<u>Account#</u>		
<u>Employee Name</u>		
<u>Company Name</u>		
<u>Street Address (No P.O. Box)</u>		
<u>City</u>	<u>State</u>	<u>Zip</u>
<u>Telephone#</u>	<u>Fax#</u>	

**For Additional Proforma Invoice Forms**

(TY 714 0-6)

Fax to: (540) 980-7433

**Example E: Emballage Order Form**  
**Emballage Order Form**

**Attention: Emballage Administration**  
**Fax: (540) 980-7433**

**From:**

**Account #**  
**Company Name**  
**Address**  
**City, State, Zip**  
**Country**

**Ordered By:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**COMPLETE ORDER IN PIECES**

		<b>L</b> 48"x 32"	<b>*K</b> 24"x 32"	<b>F</b> 48"x 64"	<b>G</b> 57"x 32"	<b>H</b> 71" x 32"
<b>Pallets</b>	<b>10/Bundle</b>	1	2	5	6	9
<b>Frames</b>	<b>50/Bundle</b>	21	22	25	26	29
<b>Spacers</b>	<b>100/Bundle</b>	61	62	65	66	69
<b>Lids</b>	<b>25/Bundle</b>	71	72	75	76	79

**\*K pallets packed 20/Bundle**

**Other Packing Material**

<b>701</b> (Pallet) 10/Bundle		<b>724</b> (Pallet) 5/Bundle		<b>119</b> (Spacer) 130/Bundle	
<b>702</b> (Frame) 20/Bundle		<b>725</b> (Frame) 10/Bundle		<b>81</b> (Spacer) 135/Bundle	
<b>706</b> (Lid) 25/Bundle		<b>726</b> (Lid) 5/Bundle			
<b>780/781</b> (Blue Box) 40/Bundle		<b>750/781</b> (Blue Box) 80 tubs/40 lids/Bundle		<b>Other</b>	
<b>790/791</b> (Blue Box) 8/Bundle		<b>840/841</b> (Blue Box) 20/Bundle			

**Arrival Deadline:** \_\_\_\_\_ **Order planned to last:** \_\_\_\_\_  
*(Allow a minimum five (5) working day lead-time)*

**Special Notes:**

Telephone #

Fax #